

Notice of Allowability

Application No.

10/651,980

Examiner

Tammy Pham

Applicant(s)

PENG, JEN-CHUN

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/14/2006.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Amendment

Claims 1-12 are pending.

Allowable Subject Matter

Claims 1-12 are allowed.

The following is an examiner's statement of reasons for allowance:

Claims 1-4 are allowable because prior art fails to teach or suggest, either alone or in combination, a driving device for display period control of organic light emitting diode (OLED), which can control the grayscale of the OLED of every scan period connected to the driving device, comprising: a current buffer, connected to an external current source; a switching unit, connected to an external precharge voltage source, a pulse width modulation (PWM) grayscale control unit, connected to an external memory and the switching unit for controlling, switching unit for connecting the current buffer and the OLED; controlling the switching unit for connecting the OLED and the GNDA until a second duration is due when the grayscale display duration is due; controlling the switching unit for connecting the OLED and the GNDA until a third duration is due when the second duration is due; wherein the display period is sum of the first, the second and the third durations.

Claims 5-8 are allowable because prior art fails to teach or suggest, either alone or in combination, a method for display period control of organic light emitting diode (OLED) for a grayscale display, where a display period including precharge, display and discharge phases is

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set beforehand, comprising the steps of: receiving image data; calculating grayscale display duration according to the image data; precharging the OLED within the precharge phase; supplying a constant current continuously to aid OLED for the grayscale display until grayscale display duration is due; discharging the OLED until the display phase is due; and discharging the OLED until the discharge phase is due.

Claims 9-12 are allowable because prior art fails to teach or suggest, either alone or in combination, a driving device for display period control of organic light emitting diode (OLED), which can control the grayscale of the OLED of every scan period connected to the driving device, comprising: a current buffer, connected to an external current source; a switching unit, connected to an external precharge voltage source, a pulse width modulation (PWM) grayscale control unit, connected to an external memory and the switching unit for controlling, switching unit for connecting the current buffer and the OLED; controlling the switching unit for connecting the OLED and the GNDA until a second duration is due when the grayscale display duration is due; controlling the switching unit for connecting the OLED and the GNDA until a third duration is due when the second duration is due; wherein the display period is sum of the first, the second and the third durations.

Prior art does disclose similar art although not entirely as claimed.

Tsuchi et al. (US Patent No: 6,346,993 B1) teaches of a selector for selecting either of the storage units based upon a polarity signal, and selectively outputting reference data corresponding to the standard or modulated state based upon modulation information comparing entered data and the reference data output from the selector, however, but fails to teach of all the components and their inter-connections as claimed.

Saito et al. (US Application No : 2002/0039090 A1) teaches of a grayscale mode circuit configured to determine a grayscale number of the digital grayscale data based on a grayscale model signal supplied from the outside but fails to teach of all the components as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments, filed 3/14/2006, with respect to claims 1-12 have been fully considered and are persuasive. The rejection of claims 1-12 has been withdrawn.

Conclusion

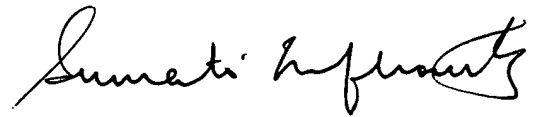
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammy Pham whose telephone number is (571) 272-7773. The examiner can normally be reached on 8:00-5:30 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tammy Pham
June 9, 2006



SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER